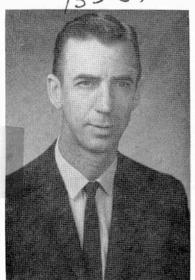


-Y-12 BULLETIN

A Newspaper For Y-12 Employees of Union Carbide Corporation—Nuclear Division

Vol. 23 - No. 48



Charles Pitts Jr.

Graduate School Registers Now!

The Oak Ridge Resident Graduate school of the University of Tennessee is currently accepting early registration for the Winter Quarter, which begins January 5.

Registration is taking place up until Friday, December 19, and will resumed again January 5-6 for the current calendar. Officer hours are from 10 a.m. to 6 p.m. and post-dated checks will be accepted according to the Registrar.

Courses offered by the program are support by the U.S. Atomic Energy Commission and approved by the Carbide Education Assistance Program.

New life science courses have been added . . . Microbiology, Zoology 4280, 4390 and 5350 are being offered this quarter in addition to the usual Physical Science, Mathematics, Engineering and Management courses.

NEW METHODS

These days they are making almost everything wrinkle-resis-. . everything, that is, but people.

Charles Pitts Is **New Foreman**

The Utilities Administration Department announces the December 1 promotion of Charles Pitts Jr., to utilities foreman.

Pitts, who came to Y-12 October 6, 1954, attended Maryville College. He is a veteran of the U.S. Air Force serving from 1943 until 1945. He worked at the Caudill Lumber Company, Ermine, Kentucky; and the Jackson Furniture Company, Neon, Kentucky, before coming here. He was born in Whitesburg.

The Pitts live at 605 Patton Ferry Road, Kingston. They have a married son, C. Edward Pitts, who is a first lieutenant now in the Air Force. Mrs. Pitts is the former Jaunita Stacey.

Golfing occupies a lot of Pitts' spare time.

Agro-Industrial Complex In Film

"No Greater Challenge," a laylevel motion picture outlining the future of nuclear energy in reclaiming the world's deserts for agriculture, is being made available for free loan to the public through the Atomic Energy Commission's film library here.

The 14-minute color film shows man's historic and growing need for water and offers a dramatic solution to this great challengethe agro-industrial complex. With nuclear reactors as the energy source and desalting plants as the fresh water source, the film explains, today's coastal deserts could be transformed into selfsustaining, mammoth nuclear powered agro-industrial centers

The movie may be borrowed high cutting speed is required. free of charge, except for return postage, from the Motion Picture Film Library at the local AEC of-

A. E. SANDS, who retired recently from Y-12, was notified at his retirement dinner that he had received two patent applications. His 'Improved Method for the Manufacturing of Carbon Foam,' and 'Method for Increasing the Strength of Carbon Foam,' earned him the U.S. Government patent applications. He is seen above, at right, receiving his retirement plaque from Roy Williams, superintendent of Fabrication.



FOUR EQUALLY SPACED, adjustable, air bearing steady rests are used to support a light weight fixture for a specialized machining operation in Y-12. The steady rest uses a special porous graphite to provide a thermally stable, vibration-free support without wear to the fixture running surface. N. B. Bloomer, Beta Four Heavy Machine Shop, is seen with the development above.

Machining System Is Developed

Union Carbide machine tool engineers at Y-12 have developed an air bearing steady rest system consisting of farms and industrial for use in special machining operations where extreme accuracy at

> The new system permits surface speeds as high as 4,000 feet per minute without malfunction or loss of accuracy. Improvements over conventional ball bearing steady rest systems have been observed in machining time, surface finish and machine main-

The purpose of a steady rest system is to provide stability to a support fixture which holds a workpiece in place during a ma-chining operation. Although con-ventional ball bearing steady rest systems are satisfactory for lowspeed machining operations, they tend to overheat and to vibrate excessively during high-speed op-

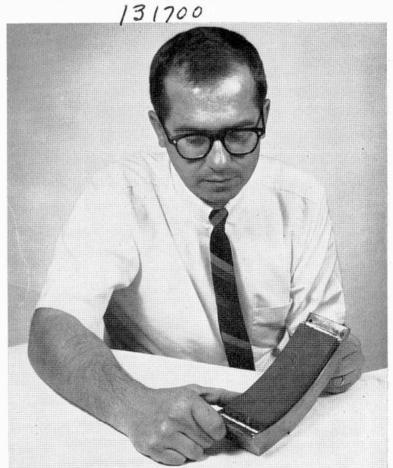
The air bearing steady rest system developed at Y-12 uses a special porous graphite which provides a thermally stable, vibration-free support without wear to
Continued on Page 4

SAFETY SCOREBOARD

The Y-12 Plant Has Operated 89 Days Or 3,198,000 Man-Hours (Unofficial Estimate) Through December 14 Without A Disabling Injury

SAFETY AT HOME,

AT WORK, AT PLAY



A SINGLE, ADJUSTABLE, Air bearing steady rest can be used to support a heavy machining fixture which is inherently stiff. The steady rest was developed at Y-12. P Steger, Fabrications Systems Development, was principal

Holiday Hours For Credit Union

that the credit union offices will be closed December 25, 26 and also January 1, and 2. Other than those two days, regular Credit Union will take place at hours will be observed.

a nominating committee for offi- School, Oak Ridge. But more on cers for 1970. Captain M. L. that later.

The board of directors of the | Woodard will chair the nominat-Y-12 Credit Union has announced ing committee and serving with him will be R. E. Schabot and G. C. Cook.

7:30 p.m., Thursday, January 22, Also, the board has announced at the Robertsville Junior High



Hi-Jackers Still Starlite Leaders

The Hi-Jackers still claim a two-point lead in the Carbide Starlite Bowling League, despite losses last week. The Splitters claimed two points from them and the Dynapaths took two from the Woodpeckers. The Has Beens crowned the Wild Cats for the full count.

The Thunderbirds trampled 20 and 18 each.

over the Jaguars for two.

Coy Harrell, Hi-Jackers, hit a
223 scratch, 248 handicap game.

Woodpeckers

The Y-12 Howard Gerth, Woodpeckers, scored a 580 scratch series, while through with a 660 handicap se-

The Hi-Jackers hit high in singles, 939 scratch, 1054 handicap. Their 2458 scratch series was high; but the Splitters put a 2907 handicap series up.

League standings follow:

Team	W	1
Hi-Jackers	18	(
Woodpeckers		- 1
Splitters		
Has Beens		1.
Dynapaths		1:
Thunderbirds		13
Wildcats	6	18
Jaguars	4	20

Wyatt, Brewer **Lead Table Tennis**

Loyd Wyatt took the helm of the X Table Tennis League last week after a three-game win over Roy Huddleston.

Subbu Raman downed Jerry Goldstein also for three for the only action in the league.

A League Standings.		
Player	W	1
Loyd Wyatt, Y-12	14	4
Herb Mook, X-10	11	4
Roy Huddleston, Y-12	13	
Subbu Raman, X-10	9	5
Jerry Keyes, Y-12	6	6
Bill Foutz, X-10	8	
Bill Motley, Y-12	4	11
Jerry Goldstein, X-10	1	17
Gordon Brewer held a	0	ne-
point lead in the V set	26	he

downed Bill Bardill for three.

Ed Gambill, following closely behind, closed out Gene Zeigler

ioi tinee.		
Y League standings:		
Gordon Brewer, Y-12	17	1 2
Ed Gambill, Y-12	16	2
Art Weinberger, X-10	10	5
Bill Bardill, X-10	10	8
Gene Zeigler, X-10	10	8
Ram Uppuluri, X-10	3	9
Bob Smith, Y-12	0	15
Ken Toth, X-10	0	15

Prod. Engineering Enjoy Yule Party

Product Engineering and Scheduling scheduled their Christmas Party Friday, December 5 at Beaverbrook Country Club, over Powell-way

A host of folks showed for the dinner-dance and stayed for the festivities. Pictures to the left indicate the mood of the entire thing. Pretty ladies in pretty out-

Bulletin

Published Weekly For The Y-12 Employees Of UNION CARBIDE CORPORATION



NUCLEAR DIVISION

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Member 118	Appalachian Industrial Editor's Association
American Association	Industrial Editors

OFFICE Post Office Box Y Oak Ridge, Tenn. 37830 Telephone 3-7100

Seven Teams Still Sport Clean Records In Fast-Paced Basketball

The ORNL Spoilers opened last week's Basketball action Monday by cleaning the Quarks thorough-69 to 27. The fast team with Robert Taylor engineering the maneuvers and Homer Tucker as fireman roared by the Quarks, left at the station. Taylor and Tucker were big guns with

Larry De Roos tried valiantly to stop the express but help was

The Y-12 Hawsk edged the Meat Loafs, ORNL, 33 to 26 in the Lee Jackson, Wildcats, sailed second fight on court A. A slow liams and Wes Hightower couldn't moving ball game, neither team was able to generate much of an apiece. attack until the final period when the Hawks came to life. Romeo Greene found the goal for 10 points to pace both teams.

Tight Squeeze ORNL's Aggressor's barely made it by the Y-12 Buccaneers 35 to 34 . . . an extremely rough game. Many fouls were featured. The game was tied 33-33 with the Bucs playing for the last shot about eight seconds left. Earl Nall drove for the basket drawing a foul, and stepped to the line for one and one. He made the first, but missed the second, giving the Bucs the lead. The Aggressors' Ron Linus threw the ball from mid-court to sink the field goal for the winning points' margin!

Meanwhile on the back court, the ORNL Nads had little trouble with the Road Runners, also from ORNL, downing them 61 to 44.

Hot shooting by Tony Thomas, 20; Ed Bailiff, 17, and Jim Smith, 12; proved the winning edge.

Computes Win Big

The Comptues felled the Isotopes 62 to 33 . . . in a slow moving contest until the Computes super-sub Nathan Stonecipher came off the bench with a hot hand, tossing in some 18 points.

The Computes then dominated both boards the rest of the way.

The Beta 2 Miners beat the Bombers from ORNL 43 to 39.

John Scott's aggressiveness and marksmanship proved too much for the Bombers. Scott scored 25 important points.

Rounders Cinch C Alley Crown!

The Rounders nailed the lid down on the C Bowling League's first half last week, with a comfortable three-point win over the Rollmasters. Also taking three were the HiLifers by the Big Five. The only four-point sweep of the day went to the Instrument Engineers by the Anodes.

The Parbusters posted three at the expense of the Sunflowers, as did the Badgers by the Fireballs. The Go Go Gophers and Royal Flush share two and face each other as 'cellar' opponents in the position roll-off this week.

A. E. Smith, Badgers, rolled a 224 scratch game . . . J. Murphy, Instrument Engineers, held hana 574 scratch series.

The Badgers were best in singles . . . 900 scratch, 1045 handicap. The Sunflowers' skill gave them high series, 2550 scratch; and the Instrument Engineers totaled a 2964 handicap series.

League standings follow:

Leam	**	- 3
Rounders		1
HiLifers	35	2
Instrument Engineers	34	2 2 2 2 2
Parbusters	32	2
Rollmsters	31	2
Badgers	31	2
Sunflowers		2
Fireballs	25	3
Big Five	25	3
Anodes		3
Go Go Gophers		3
Royal Flush	11	4

ORNL's Rolling Bones began action Wednesday by taming the Mod Squad 49 to 47, making a good comeback in the second half. They pulled the game out of the fire in the last minutes. Ken Bell led scoring with 19 while Dick Vaughn gave fine support on the boards.

69ers Look Good

The CC 69ers clipped the Isotopes 63 to 29. The I team tried to slow the 69ers' attack down but to no avail as they were out-rebounded on both boards. Jim Wilmiss...socking 20 and 18 through

The K-25 Trojans tromped over the ORNL Ail Stars in cruel fashion in the final game . . . running roughshod over the outmanned (both in height and finesse) Star team. The fast break, used to perfection, gave Tom Davis 34 of the

On the back court, Y-12 Rats were gnawing away at their fellow plantsmen Development All Stars . . . downing them 44 to 25 Larry Jones scored 11 of the Rat's points, Tom Caudle, 10.

Chuck Beiber tallied eight of the Stars' 25 points.

Big GBU's Win

The GBU's made short work of the Butterballs, 61 to 45 in the second game. Too much speed and rebounding strength were too much for the hustling Butterballs. Larry McDonald dropped 14 through the basket, Ron Gamrot 12 for the winners.

Bobby Belt belted 17 for the unlucky cause.

Final game of the week saw the Meat Loafs win as Tom Grizzard scored only two points, but they were important ones, on a jump shot with seconds remaining in overtime.

This enabled the Loafs to post their first big victory.

and and and	
League standings follow:	
Team .	W
K-25 Trijans	3
GBU's. Y-12	2
potters, ORNL	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS
ggressors. ORNL	2
C 69ers. K-25	2
omputes, ORNL	2
lads, ORNL	2
Bimbers, ORNL	1
Butterballs, ORNL	1
Butterballs, ORNL Rolling Bones, ORNL	1
Beta 2 Miners	1
Iawks, Y-12	- 1
Rats. Y-12	1
Duarks Y-12	1
leat Loafs, ORNL	1
sotopes, ORNL	1
Buccaneers, Y-12	0
Development All Stars, Y-12	Č
Iod Squad, Y-12	Č
dil Stars, ORNL	Č
Road Runners, ORNL	Č
the state of the s	

Beavers, The Pack Volleyball Leads

Volleyball action last week left only two teams in the undefeated

The top of the league at the shank of the evening saw the Pack down the Ecobums for three 15-0, 15-2, 15-3 and 15-7. The Blacksmiths defeated the Boom erangs 15-5, 15-12 . . . then the Boomers won 1510, while the 'Smiths returned to take game dicap highs . . . singles of 250 se- four 15-3. The Set-Ups sank the ries of 677. Bob Jago, HiLifers, hit K-25 Gashouse Gang 15-12, 15-7, 15-8 and 15-8.

> cleaned the Bombers 15-8, 15-6, 15-1 and 15-9. The Beavers bested the Eagles 15-0, 15-1, 15-0 and scratch, 245 handicap single; se-15-10. The ORNL Old Men de- ries of 453 scratch, 612 handicap. feated their counterparts, the Y-12 Old Men, 15-1, 15-7, 15-2, 15-10.

	12 010 111011, 10 1, 10 1, 10 2,		
	Team The Pack, ORNL	W	1
6	The Pack, ORNL	8	
1	Beavers, Y-12	8	
2	Set-Ups, ORNL	6	
	K-25 Hawks		
5	Old Men, ORNL	6	
5	Ecohums ORNL	4	
B	K-25 Gashouse Gang Eagles, Y-12	4	
	Eagles, Y-12	2	
ī	Blacksmiths, ORNL	2	
3	Boomerangs, ORNL	1	
5	Beta 4 Commodores	0	
5	Y-12 Old Men	0	- 1





VETERAN TEAMS in the Classic Bowling League line up for recent action. In the top picture are the Splinters . . . Frank Thurman, George Reece, Manfred Bayes, Elmer Johnson, captain; and Harry Keene. In the lower picture are the Rippers, Jay Holzknecht, captain; Bill Fleischmann, Paddy Peckman, Nelson Tibbatts and Wayne Groppe.

Markers Nail First Half Honors Down As Classic League Nears End

in the first half, the Markers nailed the lid on the Classic Bowling League last week by downing and the Screwballs. the Bumpers for three points, staying a good nine and one-half points out front.

by the Has Beens, the Rippers by the Splinters, the Cubs over the Rebels and the Swingsters by the Eightballs. The Eagles also

Goofers Eke Out Early Mixed Crown

The Goofers claimed the first half title in the Mixed Bowling League last week by a scant half point . . . but a half-point is good as a half-mile! Both top leaders took three points from opponents, as the Goofers defeated the Hits & Misses and the Alley Cats dropped the Twisters.

The Spare Parts polished off the Rollers for four, and the Mustangs took the Roses 'N Thorns

Fred Hammond, Goofers, took all top honors rolling singles of On Court B, the K-25 Hawks 224 scratch, 247 handicap; series of 577 scratch, 646 handicap. Dora ries of 453 scratch, 612 handicap.

The Goofers in gaining the top berth in league standings rolled team highs of the night, singles of 664 scratch, 795 handicap; series holidays. of 1915, 2308.

Of 1915, 2500.
Team
Goofers
Alley Cats
Spare Parts
Roses 'N Thorns
Mustangs
Rollers
Hits & Misses
Twisters

With still another night to roll claimed four from the Smelters.

Sharing two were the Tigers and the Playboys, the Pinbusters

Frank Adams, Playboys, WOW!, rolled a 257 scratch, 274 handicap game! His 646 scratch, 697 handi-Posting four were the All Stars cap series was, naturally, high

The Playboys, Tigers and Markers, all with 907, shared scratch single honors. The Tigers' 1061 handicap was high. In series it was the Swingsters with 2632 scratch; the Playboys with 2954 handicap.

Feam	w	L	
Markers	4316	1216	
Rebels	34	22	
All Stars	3216	2316	
Rippers	321/2	2332	
rigers	31	25	
Cubs	30	26	
Swingsters	291/2		
Has Beens	28	28	
Pinbusters	2732	2816	
Playboys	27	29	
Screwballs	261/2	2916	
1 1 41 11	24	32	
Sumpers	24	32	
		33	
Splinters	20	36	
Eagles			
Smelters	15	41	
	_		

B Shift Sets Turkey Shoot Saturday Here

B Shift is supporting another Turkey Shoot, aimed at the Oak Ely, Mustangs, rolled a 192 Ridge Sportsman's Association range this Saturday, December 20. The first of 15 relays will be fired at 9:30 a.m., 25 firing in each relay. Two winners from each will see 30 turkeys go for the

> Ammo is furnished in the 12, 16, 20 guage only firing, and shots are 50 cents per.

> If you're not doing anything Saturday morning, go on out and try your skill, or your luck, whichever you think is best.



CLEANING A MOON BOX . . . C. H. McCallister uses a fluorescent light and a needle-sized vacuum cleaner to remove lint particles from an Apollo moonbox. The cleaning operation is one of a series of pre-flight decontamination steps to assure that there was no earth dirt in the box to contaminate soil samples obtained from the moon.

Cleaning Moon-Boxes For Apollo 12 Flight To Moon Is Done In Y-12

Y-12 has performed the clean- | contaminants that might intering of the Sample Return Con- fere with an accurate appraisal tainers and various tools to be used by Apollo-12 astronauts in returning geological samples from less than 10-billionths of a gram the moon

Four containers were cleaned for the Apollo-12 mission. Two were aboard the Lunar Module and two were available for back-

The cleaning operation was performed in a super clean room ceiving Laboratory, Manned facility equipped with absolute Spacecraft Center, Houston, Texfacility equipped with absolute filters and an airflow system that as for final flight preparation. permits some 386 air changes per hour. The equipment was fabricated the containers, per-cleaned by immersing it in a formed the cleaning for the Naseries of vats equipped with ul- tional Aeronautics and Space Adtrasonic energy and high purity solvents removed tiny, hard-to- cy agreement with the U. S. reach dirt particles and organic Atomic Energy Commission.

of moon samples.

The containers were cleaned to of matter per square centimeter of surface - equivalent to the amount of material found in a few fingerprints on an area the

size of a football field.

After being hermetically packaged, the Sample Return Containers were sent to the Lunar Re-

Y-12, which also designed and ministration under an inter-agen-

Recreation



Saturday, December 20 TURKEY SHOOT: 9:30 a.m Oak Ridge Sportsman's Range 50¢ per shot, sponsored by B

Monday, December 22 BOWLING: C League, 5:45

p.m., Ark Lanes. TABLE TENNIS: 7 p.m., Wild-

Tuesday, December 23 CHRISTMAS PARTIES: 8:30, 10:30 a.m.; 12:30, 2:30, 4:30 and 6:30 p.m. All Carbide Kids be-tween ages of two and 10. Oak Ridge High Sabael Auditorium Ridge High School Auditorium.

BOWLING: Carbide Starlite League, 8:30 p.m., Starlite Lanes,

Thursday, December 25 CHRISTMAS: Holiday for Y 12ers

15 Minutes Early For Christmas Parties

The Recreation Department urges parents to bring children to the parties next Tuesday about 15 minutes early. This will give you time to park and walk to the Oak Ridge High School Auditori-

Tickets are required for both adults and children at the 8:30, 10:30 a.m., 12:30, 2:30, 4:30 and 6:30 p.m. parties. Have a good time!

Area Coon Hunters Organize Saturday

C. E. Phillips, Electrical, is Mountain Coon Hunters Club.
The organization will hold its first meeting Saturday, December 20 at 2 p.m. at the Laurel Creek. School House Community Center, Highway 116, eight miles from Lake City, eight miles from Oliver Springs.

The CMCHC will seek to stock Lake City, Oliver Springs, Petros, New River, Beech Fork and Caryville. They will need about four assistant game wardens to protect | December 19. the game that is stocked.

Membership, says, Phillips, is \$10 to join and \$5 per year. All coon hunters in this area are invited to join. More information may be obtained from Phillips, at his Lake City home 426-2904.

It's Later Than You Think Says P.M.

"It's later than you think," muses Oak Ridge Postmaster Van fixtures which are inherently D. Hicks. A Christmas reminder stiff, or may be employed with up went out last week as the Post to four adjustable pads to support Office announced longer window large, but relatively light weight, hours during the holidays. The Post Offices in Downtown and Jackson Square will stay open 8 a.m. to 6 p.m. The postmaster also added that lines were shorter between 9 and 11 a.m. and 2 p.m. and 4 p.m.

Mail early, and please . . . ZIP CODES, asks the pm.



A score or more of Y-12ers mark important dates during the Holiday Season, treading on mile-stones with Union Carbide Corporation. Congratulations. 25 YEARS

Clarence H. Crockett, Buildings, Grounds and Maintenance Shops, December 18.

Eschar M. Baird, Utilities Ad-

ministration, December 18.

Ralph L. Johnson, Guard Department, December 18.

William C. Hudson, Instrument Engineering, December 18. Elbert Scott, Guard Department, December 21.

15 YEARS George W. Holbert, Utilities

Administration, December 17.

George R. Myers, Buildings, Grounds and Maintenance Shops, December 20.

Paul F. Meredith, Ceramics and Plastics Development, December

Robert L. Oswald, Process Maintennace, December 20. Ned O. Patty Jr., Dispatching

Department, December 21. Lige M. Gibson Jr., Beta Four Forming, December 22. 10 YEARS

Seldon J. Cox, Dimensional Inspection, December 21.

John H. Nageotte, H-2 and F-Area Shops, December 21.



Ride wanted from Route 1, Philadelphia, Tennessee, to East Portal, straight day. J. F. Blount, plant phone 3-5095, home phone Philadelphia 458-2952.

Ride wanted from Euclid Circle, East Village, Oak Ridge, to East Portal, straight day. G. E. Bennett, plant phone 3-7705, home Oak Ridge 482-2775.

Ride wanted from Clinton

Monthly Salaried Pay-Day Is Early

The Paymaster says that payday will arrive just a mite early coons in the mountain area of this month for monthly-salaried employees . . . a week early to be exact. Employees who pick up their checks may do so Friday,

> Folks banking by mail will also receive their receipts back from the banks early, too.

Machining System

Continued from Page 1 the fixture running surface. The fixture rides on a 300-400 microinch thick air cushion (a microinch is one millionth of an inch).

The steady rest system may be utilized as a single, adjustable pad to support heavy machining fixtures that lack stiffness.

Y-12, one of the four installations operated by Union Carbide's Monday through Saturday, from Nuclear Division for the U.S. Atomic Energy Commission, developed the new system as part of | first navigation school and is | week's Physics Division seminar. a continuing research program to cy of machine tools used in the



UNION CARBIDE CORPORATION

NUCLEAR DIVISION

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A PLAQUE struck in memory of Prince Henry, born in 1394 in Portugal, was presented to Gus Angele recently by the Portuguese Ambassador to the United States. The beautiful bronze plaque was presented for Angele's 22 years efforts in the U.S. Power Squadron's educational efforts. Prince Henry was the founder of the first navigation school and is known as the father of modern navigation.



A Y-12ER GUS ANGELE is honored for his long service in the educational efforts of the U.S. Power Squadron. Angele, third from left, is a charter member and district education officer of the Oak Ridge Unit. From left are Thomas Kane, district commander; Portuguese Ambassador to the U. S.: Angele, and Commander Jose Cabral, now retired from the Portuguese Navy, often called the 'Lindberg of

Gus Angele Awarded Bronze Medal For Power Squadron Education Efforts

G. J. Angele, Engineering Mechanics, has long been active in the Oak Ridge Unit of the U.S. perfected the first nautical in-Power Squadron. A charter member, Angele is district educational The medal, named officer, and has held many posts the Portuguese prince, honors the in the local unit.

For his long years of service, and his educational efforts in behalf of the USPS, Angele was recently honored by the Portuguese government. Called to the Ambassador's office in Washington, D.C. he was presented the Prince Henry medal.

Portugal, was the founder of the known as the "father of modern secrets of the Atlantic and to the N building.

The medal, named in honor of educational leader in power squadrons each year.

'Martian Winds' Is **Physics Seminar Topic**

Frank A. Gifford, Atmospheric Turbulence and Diffusion Laboratory, Environmental Science Prince Henry, born in 1394, in Services Administration, will disortugal. was the founder of the cuss "Martian Winds," at this

The seminar is set for Friday. upgrade the quality and efficien- navigation." A man who devoted December 19, at 3:15 p.m. in the his life to the "discovery of the East Auditorium of ORNL's 4500-